WHAT IS CLAIMED IS:

1. A substantially pure or recombinant polypeptide:

a) exhibiting identity over a length of at least about 12 amino acids to the mature polypeptide from SEQ ID NO: 2 or 6;

b) exhibiting identity over a length of at least about 12 amino acids to the mature SEQ ID NO: 8 or 10; or

c) exhibiting identity over a length of at least about 12 amino acids to the mature SEQ ID NO: 12 or 14.

2. The polypeptide of Claim 1, wherein:

a) said SEQ ID NO: is 2 or 6, and said polypeptide:

i) is a mature natural sequence DAP12 from Table 1;

ii) comprises an ITAM motif; or

iii) comprises a charged residue in a transmembrane domain;

b) said SEQ ID NO: is 8 or 10, and said polypeptide:

i) is a mature natural sequence DAP10 from Table 2;

ii) comprises an ITIM motif; or

iii) comprises a charged residue in a transmembrane domain; or

c) said SEQ ID NO: is 12 or 14, and said polypeptide:

i) is a mature natural sequence MDL-1 of Table 3; or

ii) comprises a charged residue in a transmembrane domain.

3. A polypeptide of Claim 1, which:

a) comprises a plurality of said lengths; or

b) is a natural allelic variant of DAP12;

c) is a natural allelic variant of DAP10;

d) is a natural allelic variant of MDL-1;

e) has a length at least about 30 amino acids;

f) is a synthetic polypeptide;

g) is attached to a solid substrate;

h) is conjugated to another chemical moiety;

i) is a 5-fold or less substitution from natural sequence; or

j) is a deletion or insertion variant from a natural sequence.

4. A composition comprising:

a) a sterile DAP12 polypeptide of Claim 3;

b) said DAP12 polypeptide of Claim 3 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration;

c) a sterile DAP10 polypeptide of Claim 3; or

d) said DAP10 polypeptide of Claim 3 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration;

e) a sterile MDL-1 polypeptide of Claim 3, or

f) said MDL-1 polypeptide of Claim 3 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

5. A fusion protein comprising said polypeptide of Claim 1 and:

a) a detection or purification tag, including a FLAG, His6, or immunoglobulin peptide;

b) bacterial ß-galactosidase, trpE, Protein A, ß-lactamase, alpha amylase, alcohol dehydrogenase, and yeast alpha mating factor; or

c) sequence of another membrane protein.

6. A kit comprising said polypeptide of Claim 1, and:

a) a compartment comprising said polypeptide; and/or

b) instructions for use or disposal of reagents in said kit.

7. A binding compound comprising an antigen binding portion from an antibody, which specifically binds to:

a) a natural DAP12 polypeptide of Claim 2, wherein said antibody:

i) is raised against a mature polypeptide of Table 1;

ii) is immunoselected;

iii) is a polyclonal antibody;

iv) binds to a denatured DAP12;

v) exhibits a Kd to antigen of at least 30 μM;

vi) is attached to a solid substrate, including a bead or plastic membrane;

vii) is in a sterile composition; or

viii) is detectably labeled, including a radioactive or fluorescent label;

b) a natural DAP10 polypeptide of Claim 2, wherein said antibody:
i) is raised against a mature polypeptide of Table 2;
ii) is immunoselected;
iii) is a polyclonal antibody;
iv) binds to a denatured DAP10;
v) exhibits a Kd to antigen of at least 30 μM;
vi) is attached to a solid substrate, including a bead or plastic membrane;
vii) is in a sterile composition; or
viii) is detectably labeled, including a radioactive or fluorescent label; or

c) a natural MDL-1 polypeptide of Claim 2, wherein said antibody:
i) is raised against a mature polypeptide of Table 3;
ii) is immunoselected;
iii) is a polyclonal antibody;
iv) binds to a denatured MDL-1;
v) exhibits a Kd to antigen of at least 30 μM;
vi) is attached to a solid substrate, including a bead or plastic membrane;
vii) is in a sterile composition; or
viii) is detectably labeled, including a radioactive or fluorescent label.

8. A kit comprising said binding compound of Claim 7, and:
a) a compartment comprising said binding compound; and/or
b) instructions for use or disposal of reagents in said kit.

9. A composition comprising:
a) a sterile binding compound of Claim 7, or
b) said binding compound of Claim 7 and a carrier, wherein said carrier is:
i) an aqueous compound, including water, saline, and/or buffer; and/or
ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

10. An isolated or recombinant nucleic acid encoding a polypeptide of Claim 1, wherein said nucleic acid encodes an antigenic peptide sequence of Table 1, 2, or 3.

11. The nucleic acid of Claim 10, which encodes a plurality of antigenic peptide sequences of said table.

12. The nucleic acid of Claim 10, which:

a) is an expression vector;

b) further comprises an origin of replication;

c) is from a natural source;

d) comprises a detectable label;

e) comprises synthetic nucleotide sequence;

f) is less than 6 kb, preferably less than 3 kb;

g) is from a mammal, including a primate or rodent;

h) comprises a natural full length coding sequence;

i) is a hybridization probe for a gene encoding DAP12, DAP10, or MDL-1; or

j) is a PCR primer, PCR product, or mutagenesis primer.

13. A nucleic acid which hybridizes under stringent wash conditions of at least 50° C, less than 400 mM salt, and 50% formamide to:

a) SEQ ID NO: 1 or 5;

b) SEQ ID NO: 7 or 9; or

c) SEQ ID NO: 11 or 13.

14. A cell or tissue comprising a recombinant nucleic acid of Claim 10.

15. The cell of Claim 14, wherein said cell is:

a) a prokaryotic cell;

b) a eukaryotic cell;

c) a bacterial cell;

d) a yeast cell;

e) an insect cell;

f) a mammalian cell;

g) a mouse cell;

h) a primate cell; or

i) a human cell.

16. A kit comprising said nucleic acid of Claim 10, and:

a) a compartment comprising said nucleic acid;

b) a compartment further comprising a DAP12, DAP10, or MDL-1 polypeptide; and/or

c) instructions for use or disposal of reagents in said kit.

17. The nucleic acid of Claim 13, which:

a) exhibits identity over a stretch of at least about 30 nucleotides to a primate DAP12;

b) exhibits identity over a stretch of at least about 30 nucleotides to a primate DAP10;

c) exhibits identity over a stretch of at least about 30 nucleotides to a primate MDL-1; and/or

d) further encodes a KIR, ILT/MIR or CD94/NKG2C receptor.

18. The nucleic acid of Claim 17, wherein:

a) said wash conditions are at 60° C and/or 200 mM salt; or

b) said stretch is at least 55 nucleotides.

19. A method of modulating physiology or development of a cell or tissue culture cells comprising contacting said cell with an agonist or antagonist of a DAP12, DAP10, or MDL-1.

20. A method of screening for a compound which blocks interaction of a DAP12 or DAP10 of Claim 2 with a KIR, ILT/MIR, or CD94/NKG2C receptor, comprising contacting said compound to said DAP12 or DAP10 in the presence of said receptor.